IN THE CLAIMS:

Please amend claims 1-30 as follows:

1. (Currently Amended) A method of information collection and processing of ~~sample's~~ a surface of a sample, ~~including~~ said method comprising the steps of

successive reading of a at least a portion of a force curve, ~~in~~ at predetermined points of the surface under control ~~within the process of approach and/or move~~ during at least one of approaching and moving apart of the sample and a probe, ~~which is~~ set up ~~at~~ as a cantilever, and

making a determination according to ~~it~~ parameters of ~~sample's parameters~~ the sample with further construction of ~~their~~ space distributions, which differs by, ~~that~~ a choice of points of control ~~is carried out~~ and values of ~~cantilever's~~ a deviation force ~~are~~ noted ~~within~~ during reading of the at least a portion of the force curve, ~~as well as: and/or~~ or coordinates of ~~its~~ a fixed end ~~are; and/or~~ or derivatives from ~~cantilever's~~ the deviation force of a coordinate of ~~its~~ the fixed end are at least in the points of control of the force curve~~, upon that,~~ and according to said values in corresponding points of control and to a number of the points of control, a determination is made of the parameters of the sample, characterizing topography ~~and/or,~~ properties of ~~sample's~~ the surface of the sample ~~and/or,~~ ~~a~~ the number of the points of control and properties of ~~its~~ surface layers of the sample ~~are determined by a number of points of control, and/or noted values of cantilever's deviation force, and/or coordinates of its fixed end, and/or~~

~~derivatives from cantilever's deviation force of coordinate of its fixed end in appropriate points of control~~.

2. (Currently Amended) The method, as set forth in claim 1, ~~differing by, that~~ wherein one of the following is used: coordinates of ~~samples's~~ the surface of the sample ~~and/or~~, coordinates of limits of ~~their~~ the surface layers, ~~or~~ thickness of the surface layers, ~~or~~ adhesion force of ~~sample's~~ the surface of the sample ~~and/or~~, adhesion force of the surface layers, ~~or~~ elasticity coefficient of ~~sample's~~ the surface of the sample ~~and/or~~, elasticity co-efficient of the surface layers, ~~or~~ frictional force of ~~sample's~~ the surface of the sample, ~~and/or~~ the surface layers are used in the character of the parameters, ~~wherein~~ topography, ~~and/or~~ properties of ~~sample's~~ the surface of the sample ~~and/or~~ and a number and properties of ~~its~~ the surface layers.

3. (Currently Amended) The method as set forth in claim 1, wherein a set of arguments are formed by values of ~~cantilever's~~ the deviation force ~~and/or~~ or the coordinate of ~~its~~ the fixed end ~~and/or~~ or derivatives from ~~cantilever's~~ the deviation force of the coordinate of ~~its~~ the fixed end at least in the points of control; determination of parameters is carried out by forming a set functions, using received arguments and determination of ~~their~~ values.

4. (Currently Amended) The method, as set forth in claim 1, wherein points, limiting quasi-rectilinear portions of the force curve, ~~and/or~~ or points, where force curve shifts slope jumpy, are chosen as the points of control.

5. (Currently Amended) The method, as set forth in claim 1, wherein points, where the coordinate of the fixed end of the cantilever ~~and/or~~ or a force of ~~its~~ the deviation ~~and/or~~ or ~~its~~ first or second derivatives according to the coordinate of the fixed ~~cantilever's~~ end, achieve threshold values~~,~~ received~~, e.g.,~~ using results of previous scanning or measurement ~~are chosen~~ as the points of control.

6. (Currently Amended) The method, as set forth in claim 1, wherein construction of space distributions is carried out relative to coordinate of ~~sample's~~ the surface of the surface.

7. (Currently Amended) The method, as set forth in claim 1, ~~differing by, that~~ wherein choosing of the points of control ~~and/or~~ or noting of values of ~~cantilever's~~ the deviation force, ~~and/or~~ or coordinates of ~~its~~ the fixed end, ~~and/or~~ or derivatives from ~~cantilever's~~ the deviation force of the coordinate of ~~its~~ the fixed end, are carried out after filtration of a set of current values of ~~cantilever's~~ the deviation force and the coordinates of ~~its~~ the fixed end.

8. (Currently Amended) The method, as set forth in claim 1, wherein a determination of the parameters, using noted values of ~~cantilever's~~ the deviation force ~~and/or~~ or coordinates of ~~its~~ the fixed end ~~and/or~~ or derivatives of ~~cantilever's~~ the deviation force of the coordinate of ~~its~~ the fixed end in a predetermined subset of points of control is carried out, taking into consideration values of indicated magnitudes in other subsets of the points of control.

9. (Currently Amended) The method, as set forth in claim 1, ~~differing by, that~~ wherein the determination of the parameters is carried out according to noted values of ~~cantilever's~~ the deviation force ~~and/or~~ or the coordinate of ~~its~~ the fixed end ~~and/or~~ or derivatives from ~~cantilever's~~ the deviation force according to the coordinate of ~~its~~ the fixed end in the points of control, placed before and after or after and before an absolute maximum of ~~cantilever's~~ the deviation force within the process of ~~approach~~ the sample approaching and ~~sample's move~~ moving apart accordingly.

10. (Currently Amended) The method, as set forth in claim 2, ~~differing by, that~~ wherein a number of the surface layers of the sample is determined as a number of points of control, limiting quasi-rectilinear portions of the force curve; ~~and/or~~ or as a number of points, where the force curve shifts slope jumpy without unit and reverse point within the process of ~~approach~~

approaching and ~~move~~ moving apart of the sample and the probe~~, if it is included into a number of points of control~~.

11. (Currently Amended) The method, as set forth in claim 10, ~~differing by, that~~ wherein initial points of quasi-vertical portions are not taken into account upon determination of a number of the surface layers of the sample.

12. (Currently Amended) The method as set forth in claim 2, ~~differing by, that~~ wherein the coordinate of ~~sample's~~ the surface of the sample is determined by a relationship:

Ro = Zo - So

wherein Ro is the coordinate of ~~sample's~~ the surface of the sample, and

Zo, So is the coordinate of the fixed ~~cantilever's~~ end and magnitude of deviation of ~~its~~ a free end at ~~the~~ a moment of achievement ~~(by cantilever's deviation force)~~ of a value, equal to 0 or -A within the approach of the sample and the probe, and 0 or +A within ~~move~~ the moving apart of the sample and the probe, ~~accordingly~~, where

A is a positive constant magnitude.

13. (Currently Amended) The method, as set forth in claim 2, ~~differing by, that~~ wherein the coordinate of ~~sample's~~ the surface of the sample is diagnosed upon fulfillment of the term Zt - St = a constant,

where Zt and St are current values of the coordinate of the fixed ~~cantilever's~~ end and of a magnitude of deviation of ~~its~~ the free end ~~accordingly~~.

14. (Currently Amended) The method, as set forth in claim 2, ~~differing by, that~~ wherein coordinates of limits of the surface layers of the sample are determined as coordinates of the fixed ~~cantilever's~~ end in the points of control, not including initial points of quasi-vertical portions within the approach of the sample and the probe and final points of quasi-vertical portions within ~~move~~ the moving apart of the sample and the probe.

15. (Currently Amended) The method, as set for in claim 2, ~~differing by, that~~ wherein coordinates of limits of the surface layers of the sample and ~~their~~ thicknesses are determined according to a relationship ~~like~~:

Ri = Zi - Si, Di = [R (i + 1) - Ri], where Ri and Di are ~~coordinate~~ coordinates of a limit of an i-layer and ~~its~~ thickness ~~accordingly~~, where

i = (0, 1, 2...), and

Zi, Si are ~~coordinate~~ coordinates of ~~cantilever's~~ the fixed end and a magnitude of deviation of ~~its~~ a free end in an appropriate point of control, not including initial points of quasi-vertical points within the approach of the sample and the probe, and final points of quasi-vertical portions within ~~move~~ the moving apart of the probe and the sample.

16. (Currently Amended) The method, as set forth in claim 2, ~~differing by, that~~ wherein coordinates of limits of the surface layers of the sample ~~relatively sample's surface~~ and ~~their~~ thicknesses are determined according to relationships ~~like~~:

R'i = Zi - Si - Ro, Di = [R' (i+1) - R'i], where R'i and Di ~~is coordinate~~ are coordinates of a limit of an i-layer, relative to ~~sample's~~ the surface of the sample and ~~its~~ thickness ~~accordingly,~~ where i = (0, 1, 2...), and

Zi, Si are ~~coordinate~~ coordinates of ~~cantilever's~~ the fixed end and a magnitude of deviation of ~~its~~ a free end ~~accordingly~~ in an appropriate point of control, not including initial points of quasi-vertical portions within ~~move~~ the moving apart of the sample and the probe.

17. (Currently Amended) The method, as set forth in claim 14, wherein the coordinates of the limits of the surface layers of the sample measured within ~~approach or move~~ the approaching and moving apart, are determined ~~relatively~~ relative to a coordinate of the surface, which is measured also ~~within move~~ during the moving apart or ~~approach accordingly~~ approaching of the sample and the probe.

18. (Currently Amended) The method, as set forth in claim 2, ~~differing by, that~~ wherein an adhesion force of the surface layers of the sample is determined by values of ~~cantilever's~~ the deviation force in the points of control, not including final

points of quasi-vertical portions ~~within move apart~~ during the moving apart of the sample and the probe.

19. (Currently Amended) The method, as set forth in claim 2, ~~differing by, that~~ wherein a summary adhesion force of the surface and the surface layers of the sample is determined as an absolute maximum of ~~cantilever's~~ the deviation force within the process of ~~move~~ moving apart of the probe and the sample.

20. (Currently Amended) The method, as set forth in claim 2, ~~differing by, that~~ wherein a coordinate of ~~sample's~~ the surface of the sample is determined with a correction for summary adhesion force, which takes place between the probe and the surface, according to a relationship:

Roa = Ro + Fac/Kp, where Roa is a coordinate of ~~sample's~~ the surface of the sample with a correction taking into account a summary adhesion force, which takes place between the probe and the surface, where

Fac is the summary adhesion force of ~~sample's~~ the surface of the sample,

Kp = Kk*tgα/(1 - tgα), and

Kk is a coefficient of ~~cantilever's~~ elasticity ~~for being in~~, and

tgα is a slope of the force curve in the vicinity of point Zo.

21. (Currently Amended) The method, as set forth in claim 2, ~~differing by, that~~ wherein a coordinate of ~~sample's~~ the surface of the sample is determined with a correction taking into account elastic properties of the surface, according to a relationship:

$$Roy = Ro + So(Kk/Kp) \text{ upon } Ro = Zo - So,$$

$$Roy = Zt - St + St(Kk/Kp) \text{ upon } Zt - St = \text{constant},$$

where Roy is a surface coordinate.

22. (Currently Amended) The method, as set forth in claim 2, ~~differing by, that~~ wherein a coefficient of elasticity of the surface layers of the sample is determined according to a relationship:

$$Ki = B*Kk*\ tg\alpha i/(1 - tg\alpha i),$$ where

$tg\alpha i$ is a slope of a portion of the force curve, placed between appropriate points of control, and B is a coefficient of proportionality.

23. (Currently Amended) The method, as set forth in claim 2, ~~differing by, that~~ wherein a coefficient of elasticity of ~~sample's~~ the surface of the sample is determined according to a relationship:

$$Kp = Kk*tg\alpha/(1 - tg\alpha),$$

where Kp is a coefficient of elasticity of ~~sample's~~ the surface of the sample.

24. (Currently Amended) The method, as set forth in claim 2, ~~differing by, that approach and/or move~~ wherein the approaching and moving apart of the sample and the probe are carried out before achievement of a threshold value by ~~cantilever's~~ the deviation force.

25. (Currently Amended) The method, as set forth in claim 1, ~~differing by, that~~ wherein a reading of the force curve is carried out more than one time in predetermined points of ~~sample's~~ the surface of the sample under control.

26. (Currently Amended) The method, as set forth in claim 1, ~~differing by, that~~ wherein a reading of the force curve ~~in~~ at predetermined points of ~~sample's~~ the surface of the sample under control is carried out within ~~approach~~ the approaching and ~~move~~ moving apart of the sample and the probe; and a magnitude of residual deformation is determined using a difference of received values of the parameters.

27. (Currently Amended) The method, as set forth in claim 1, ~~differing by, that~~ wherein a modulated electric potential is applied to the probe ~~within the process~~ during a reading of the force ~~curve's reading~~ curve, and a magnitude of force of electric interaction of the probe and the surface ~~and/or~~ or ~~surface's~~ the surface layers of the sample is determined by a summary signal, using ~~the way of~~ demodulation.

28. (Currently Amended) The method, as set forth in claim 1, ~~differing by, that~~ wherein a reading of the force curve control is carried out more than one time ~~in~~ at predetermined points of ~~sample's~~ the surface of the sample under control, upon different electric ~~potential~~ potentials of the probe ~~relatively sample's~~ relative to the surface of the sample, determining a magnitude of electric interaction force of the probe and the sample ~~and/or~~ or the surface layers of the sample, using a difference of received values of ~~cantilever's~~ the deviation force.

29. (Currently Amended) The method, as set forth in claim 1, ~~differing by, that~~ wherein a reading of the force curve control is carried out more than one time ~~in~~ at predetermined points of ~~sample's~~ the surface of the sample under control, upon different electric ~~potential~~ potentials of the probe ~~relatively sample's~~ relative to the surface of the sample, determining a magnitude of a gradient of electric interaction force of the probe and the surface ~~and/or~~ or the surface layers of the sample, using a difference of received values of derivatives of ~~cantilever's~~ the deviation force, according to the coordinate of the fixed end.

30. (Currently Amended) The method, as set forth in claim 1, ~~differing by, that~~ wherein a registration of magnitude of a tunnel current between ~~conducting~~ the probe and ~~sample's~~ the surface of the sample is carried out together with a reading of the force curve or of ~~its~~ a portion thereof, using received set of

values for construction of a distribution of electric conduction of the surface ~~and/or~~ or the surface layers of the sample.